WHAT IS CLAIMED IS:

1. A process for the purification of pH-sensitive anti-$\alpha 5\beta 1$ integrin antibodies comprising:

(a) absorbing the antibody onto an antibody affinity matrix bound to a substrate; and

(b) eluting the antibody from the substrate-bound antibody affinity matrix using an eluting solution having a pH of from about 3.0 to about 5.5.

2. The process according to claim 1 further comprising the step of:

(c) recovering the purified antibody.

3. The process according to claim 1 in which the eluting solution has a pH of from about 3.3 to about 5.5.

4. The process according to claim 1 in which the eluting solution has a pH of from about 3.5 to about 5.5.

5. The process according to claim 1 in which the eluting solution has a pH of from about 3.5 to about 4.2.

6. The process according to claim 1 in which the eluting solution has a pH of from about 4.2 to about 5.5.

7. The process according to claim 1 in which the antibody comprises a variable heavy chain region having a sequence selected from the group consisting of SEQ ID NOS: 2-6, 16 and 20 and a variable light chain region independently selected from the group consisting of SEQ ID NOS: 8-12, 18 and 22.

8. The process according to claim 1 wherein the antibody affinity matrix is selected from the group consisting of polypeptides, polysaccharides, fatty acids, lipids, nucleic acid aptamers, glycoproteins, lipoproteins, glycolipids, multiprotein complexes, a biological membrane, viruses, protein A, protein G, lectins, and Fc receptors.

9. The process according to claim 2 further comprising the step of neutralizing the eluting solution, including the eluted antibody, with a basic solution, whereby the pH of the neutralized solution is between about 6.0 and about 8.0.

10. A method for evaluating physiological effects modulated by a chimeric or humanized anti-α5β1 integrin antibody, the method comprising:

(a) providing a viable tissue sample capable of vascular regeneration;

(b) creating lesions in the viable tissue sufficient to produce choroidal neovascularization;

(c) applying one or more doses of a chimeric or humanized anti-α5β1 integrin antibody to the viable tissue; and,

(d) monitoring the dosed viable tissue for re-vascularization.

11. The method of claim 10, wherein the viable tissue of step (a) is eye tissue.

12. The method of claim 11, wherein the eye tissue is part of the eye of a living primate.

13. The method of claim 12, wherein the applying step (c) comprises injecting the humanized anti-α5β1 integrin antibody intravitreally.

14. The method of claim 11, wherein the viable tissue is the macula of the eye.

15. The method of claim 10, wherein the creating step comprises contacting the viable tissue with laser light.

16. The method of claim 15, wherein the laser light is from about 300 to about 700 mwatts, and the exposure time is no more than 0.1 seconds.

17. The method of claim 10, wherein the lesions of step (b) were from about 50 to about 100μm in diameter.

18. The method of claim 10, wherein the monitoring step comprises periodically photographing the lesions dosed in step (c).

19. The method of claim 18, wherein the monitoring step further comprises indirect ophthalmoscopic examination of the posterior chamber of the eye, and biomicroscopic examination of the anterior segment of the eye.

20. The method of claim 10, wherein the monitoring step comprises injecting intravenously a fluorescein dye, and examining the viable tissue by fluorescein angiography.

21. The method of claim 10, wherein the chimeric or humanized anti-α5β1 integrin antibody of step (c) is an antibody or a Fab fragment.

22. The method of claim 10, wherein the humanized anti-α5β1 integrin antibody of step (c) comprises a variable heavy chain region having a sequence selected from the group consisting of SEQ ID NOS: 2-6, 16 and 20, and a variable light chain region independently selected from the group consisting of SEQ ID NOS: 8-12, 18 and 22.

23. A nucleic acid encoding a polypeptide of a chimeric or humanized anti-α5β1 integrin antibody, the polypeptide comprising an amino acid sequence selected from the group consisting of SEQ ID NOS: 2-6, 8-12, 16, 18, 20, 22, 25, 26, 28, 31 and 32.

24. The nucleic acid of claim 23, wherein the polypeptide is a single-chain antibody or Fab.

25. The nucleic acid of claim 24, wherein the polypeptide comprises SEQ ID NOS: 26 and 28.

26. The nucleic acid of claim 23, wherein the polypeptide comprises SEQ ID NOS: 25 and 26.

27. The nucleic acid of claim 23, wherein the polypeptide comprises SEQ ID NOS: 31 and 32.

28. A polypeptide comprising one or more of the amino acid sequences selected from the group consisting of SEQ ID NOS: 2-6, 8-12, 16, 18, 20, 22, 25, 26, 28, 31 and 32.

29. The polypeptide of claim 28 comprising amino acid sequences SEQ ID NOS: 25 and 26.

30. The polypeptide of claim 28 comprising amino acid sequences SEQ ID NOS: 26 and 28.

31. The polypeptide of claim 28 comprising amino acid sequences SEQ ID NOS: 31 and 32.

32. A vector comprising one or more of the nucleic acids selected from the group consisting of SEQ ID NOS: 15, 17, 19, 21, 23, 24, 27, 29 and 30.

33. The vector of claim 32 wherein the nucleic acids comprises SEQ ID NOS: 19 and 21.

34. A cell transformed by an expression vector comprising one or more of the nucleic acids selected from the group consisting of SEQ ID NOS: 15, 17, 19, 21, 23, 24, 27, 29 and 30.

35. The cell of claim 34 wherein the vector comprises nucleic acids SEQ ID NOS: 19 and 21.

36. A chimeric anti-$\alpha 5\beta 1$ integrin antibody, comprising:

(a) a first polypeptide sequence from a first source comprising one or more amino acid sequences selected from the group consisting of SEQ ID NOS: 1, 7, 16, 18, 20, 22, 25, 26, 28, 31 and 32; and,

(b) a second polypeptide from a second source comprising a constant region sequence of an antibody of the second source;

wherein the first and second polypeptide sequences form a protein complex that is immunoreactive with $\alpha 5\beta 1$ integrin.

37. The chimeric antibody of claim 36 wherein the first polypeptide sequence comprises SEQ ID NOS: 25 and 26.

38. The chimeric antibody of claim 36 wherein the first polypeptide sequence comprises SEQ ID NOS: 26 and 28.

39. The chimeric antibody of claim 36 wherein the first polypeptide sequence comprises SEQ ID NOS: 31 and 32.

40. A pharmaceutical composition comprising a chimeric or humanized anti-$\alpha 5\beta 1$ integrin antibody wherein the antibody comprises an amino acid sequence selected from the group consisting of SEQ ID NOS: 1, 7, 16, 18, 20, 22, 25, 26, 28, 31 and 32.

41. The pharmaceutical composition of claim 40 wherein the antibody comprises the amino acid sequences SEQ ID NOS: 25 and 26.

42. The pharmaceutical composition of claim 40 wherein the antibody comprises the amino acid sequences SEQ ID NOS: 26 and 28.

43. The pharmaceutical composition of claim 40 wherein the antibody comprises the amino acid sequences SEQ ID NOS: 31 and 32.

44. A method of controlling vascularization in injured tissue comprising applying one or more doses of a chimeric or humanized anti-$\alpha 5\beta 1$ integrin antibody to the injured tissue.

45. The method of claim 44 wherein the chimeric or humanized anti-$\alpha 5\beta 1$ integrin antibody comprises amino acids selected from the group consisting of SEQ ID NOS: 20, 22, 25, 26, 28. 31 and 32.

46. A method of administering a therapeutic antibody comprising:
(a) providing a pharmaceutical including a therapeutic antibody comprising a variable heavy chain region selected from the group consisting of SEQ ID NOS: 2-6, 16, 20, and a variable light chain region independently selected from the group consisting of SEQ ID NOS: 8-12, 18, 22; and,
(b) applying the therapeutic antibody to an injured tissue, wherein the injured tissue responds to injury by increasing its blood flow through neovascularization and the therapeutic antibody inhibits said neovascularization.

47. The method of claim 46, wherein the pharmaceutical is injectable.

48. The method of claim 46, wherein the applying step comprises injecting the pharmaceutical systemically.

49. The method of claim 46, wherein the injured tissue is one or both eyes.

50. The method of claim 46, wherein the injured tissue is both eyes of an individual, and the applying step comprises injecting the pharmaceutical into one eye, whereby the pharmaceutical contacts both eyes thereby inhibiting neovascularization in the injured tissue.